

WHAT IS CLAIMED IS:

1. A method of performing transluminal mitral annuloplasty, comprising the steps of:

5 providing a catheter, having a prosthesis thereon;

inserting the catheter into the venous system;

transluminally advancing the prosthesis into the coronary sinus; and

rotating a component of the prosthesis to cause the prosthesis to exert a compressive force on the adjacent atrial musculature.

10 2. A method as in Claim 1, further comprising the step of percutaneously accessing the venous system prior to the transluminally advancing step.

15 3. A method as in Claim 2, wherein the accessing step is accomplished by accessing one of the internal jugular, subclavian and femoral veins.

4. A method as in Claim 1, further comprising the steps of first measuring the coronary sinus and then selecting an appropriately sized prosthesis prior to the inserting step.

5. A method as in Claim 1, further comprising the step of measuring hemodynamic function following the rotating step.

6. A method as in Claim 5, further comprising the step of determining an ongoing drug therapy taking into account the post implantation hemodynamic function.

20 7. A method of providing a therapeutic compressive force against a tissue structure which is adjacent to a vessel wall, comprising the steps of positioning a device in the vessel; rotating at least a part of a forming element within the device to cause the device to exert a force against the wall of the vessel thereby exerting a force against the adjacent tissue structure; and deploying the device within the vessel.

25 8. A method as in Claim 7, wherein the positioning step is accomplished percutaneously.

9. A method as in Claim 7, wherein the tissue structure comprises the mitral valve annulus.

30 10. A method as in Claim 7, wherein the tissue structure comprises the left ventricle.

11. A method as in Claim 7, wherein the vessel comprises a vein.

12. A method of performing annuloplasty of the mitral valve comprising positioning a prosthesis in the coronary sinus; rotating a first portion of the device with respect to a second portion of the device to cause the device to bend into an arcuate configuration to provide a compressive force on the mitral valve annulus; and securing the device in the arcuate configuration within the coronary sinus.

5 13. A method as in Claim 12, further comprising the step of percutaneously accessing the venous system prior to the positioning step.

14. A method as in Claim 13, wherein the accessing step is accomplished by accessing one of the internal jugular, subclavian and femoral veins.

10 15. A method as in Claim 12, wherein the locking step comprises engaging a first threaded surface with a second threaded surface.

16. A method as in Claim 12, wherein the locking step comprises providing an interference fit.

15 17. A method as in Claim 12, wherein the locking step comprises providing an adhesive bond.

18. A method as in Claim 12, wherein the locking step comprises providing a knot.

19. A method as in Claim 12, wherein the locking step comprises providing a compression fit.

20 20. A method as in Claim 12, further comprising the steps of first measuring the coronary sinus and then selecting an appropriately sized prosthesis prior to the positioning step.

21. A method as in Claim 12, further comprising the step of measuring hemodynamic function following the rotating step.

25 22. A method as in Claim 21, further comprising the step of determining an ongoing drug therapy taking into account the post implantation hemodynamic function.